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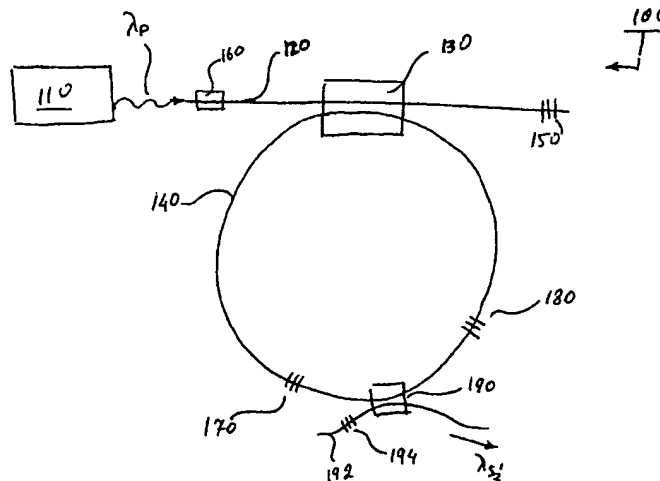
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[Continued on next page]

(54) Title: **RAMAN FIBER LASER**



(57) Abstract: The invention features, for example, a system (100) including an energy source, (110) two fibers, (120)(1400 a WDM (130) and a fiber Bragg grating (180). The first fiber (120) is coupled (160) to the energy source (110) so that pump energy from the energy source can be transferred to the first fiber (120). The WDM (130) is capable of transferring the pump energy from the first fiber (120) to the second fiber (140). The fiber Bragg grating (180) is in the second fiber, (140) and is capable of substantially reflecting energy at a predetermined wavelength. The first fiber (120) is devoid of a fiber Bragg grating capable of substantially reflecting energy at a predetermined wavelength. The pump energy interacts with the material from which the fiber is made and as a result Raman stoke transitions occur within the fiber. This energy can be used, for example, to enhance the signal in an optical fiber.

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US CL : 372/3

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 372/3

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
EAST

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ---	US 5,323,404 A (GRUBB) 21 June 1994 (21.06.1994), column 6, line 51- column 7, line 30.	1-5, 21-29.
Y		6-20
Y	US 6,163,554 A (CHANG et al.) 19 December 2000 (19.12.2000), column 3, line 50- column 4, line 34.	1-29
A	US 6,163,396 A (WEBB) 19 December 2000 (19.12.2000), abstract.	1-29
Y,E	US 6,344,925 B1 (GRUBB et al.) 05 February 2002 (05.02.2002), column 6, line 13- column 8, line 33.	1-29

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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